Jameco Part number 106382

Rec'd 1May96
(106382)

EVERLIGHT EVERLIGHT ELECTRONICS CO., LTD.

Device Number: DHO-842-008 REV 1.0

MODEL NO: IRM - 8420 Ecn: _____ Page: 1 of 6

1. Description:

   1.1 The module is a small type infrared remote control System receiver which has been developed and designed by utilizing the latest hybrid technology.
   1.2 This single unit type modele incorporates a PIN photodiode and a receiving preamplifier IC.

2. Features:

   2.1 Low voltage and low power consumption.
   2.2 Easy to handle, small cubic type module.
   2.3 Can be installed directly to equipment.
   2.4 No externally attached parts.

3. Appearance photograph: Reference fig. 1

4. Application: TV set, VTRs, CD players, audio equipment, air conditioners, car stereo radio, toys and all other equipments requiring remote control.

5. Ratings and characteristics:

   A. Absolute maximum ratings (Ta=25 °C).

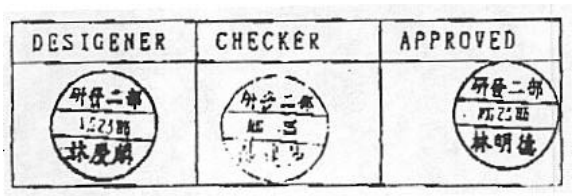
Parameter	Symbol	Ratings	Unit
Supply Voltage	Vcc	4.3 ~ 5.7	V
Operating temperature	Topr	-10 ~ 60	°C
Storage temperature	Tstg	-20 ~ 70	°C
Soldering temperature	Tsol	260 (Note. 1)	°C

= Note. 1: Maximum 5 seconds.

   B. Recommended operating conditions.

Parameter	Symbol	Ratings	Unit
Supply voltage	Vcc	4.7 ~ 5.3	V

ABOVE SPECIFICATION MAY BE CHANGED WITHOUT NOTICE. SUPPLIER'S WILL RESERVE ANTHORITY ON MATERIAL CHANGE FOR ABOVE SPECIFICATION.



C. Module schematic & circuit: Reference fig.2

MODEL NO	EVERLIGHT NO	difference of components	APPROVED
IRM-8420	IRM-8420/N	IC :UPC2800	
	IRM-8420/D	IC :DBL2055	
	IRM-8420	IC :UPC2800 & DBL2055	

D. Electrical characteristics. (Ta=25 °C, Vcc=SV)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Remark
Supply current	Icc			3	mA	=Note. 2
B.P.F. center frequency	f0		37.9		KHz	=Note. 2, 3
B.P.F. bandwidth	fbw		3		KHz	=Note. 3
Peak wavelength	λ p		940		nm	=Note. 4
Output form	= active low output =					
Arrival distance	1	8			m	=Note. 4
H level output voltage	Voh	4.2			V	=Note. 4
L level output voltage	Vol			0.5	V	=Note. 4
H level pulse width	Twh	440		770	us	=Note. 4
L level pulse width	Twl	440		770	us	=Note. 4
Halh angle	Δ θ				deg.	=Note. 5

= Note.2: Under no signal.
= Note.3: -3dB bandwidth: Reference fig.3

= Note.4: Distance that output wave form staisfies the standard (5-d) under the conditions below against.

(1) Measuring place:
Indoor without extreme reflection of light.

(2) Ambient light source:
Detecting surface illumination shall be 150±50 Lux under ordinary white fluorescense lamp of no high frequency lightning.

(3) Standard transmitter:
Burst wave indicated in fig.5 of Standard transmitter shall be arranged to 50mVp-p under the measuring circuit specified in fig.6

= Notes5: Horizontal & Vertical directions: Reference fig.6

6. Reliability:

Test Item	Test conditions	Judgment Criteria	Samples (N) Defective (C)
Operation life	Ta=65°C, Vcc=5V Test time=240hrs	=NOTE. 6	N=30 C=0
=High temperture High humidity Storage	Ta=70 ± 2°C, RH=85 ± 5% Test time=240hrs		N=30 C=0
=High temperture Storage	Ta=70 ± 2°C Test time=240hrs		N=30 C=0
=Low temperture Storage	Ta=-20 ± 5°C Test time=240hrs		N=30 C=0
=Temperture cycling (Tension)	(70→25→-20→25)°C (30 .5 30 5)min. =Note.7		N=30 C=0
Variable frequency Vibration	10Hz→30Hz→50Hz 20Sec 20Sec 20Sec 1.5mm x,y,z/1.5min		N=30 C=0
Terminal strength	Force=500g 30Sec/each terminal		N=30 C=0
Terminal strength (Bending)	Force=250g 0°C, -90°C, 0°C 2 times/each terminal		N=30 C=0
Soldering heat	260 ± 5°C, 5Sec		N=30 C=0

=Note.6: Performance test requirements and criteria given in para 3.5 should be satisfied.

=Note. 7: Heat cycle test as fig.7 for 20 cycles under noload. In the test = mark above, the sample to be teated shall be left at normal temperature and humidity for 2 hours after it is taken out of the stat.

7. Inspection standard:
Among electrical characteristics, total number shall be inspected on items blow.

@ Front distance between emitter & detector.
@ Supply current.
@ H level output voltage.
@ L level output voltage.

Items except above mentioned are not inspected particularly, but shall fully satisfy the standard value.

	Critica defect (CR)	Major defect (MA)	Minor defect (MI)
AQL	0.1	0.65	1.5

8. Others:
In case where any trouble or questions arise, both parties agree to mark ful discussion covering the said problem.

9. Package dimensinos: Reference fig. 8

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fig.1 Appearance photograph:

fig.2 Module schematic & circuit:

c. Module schematic & circuit.

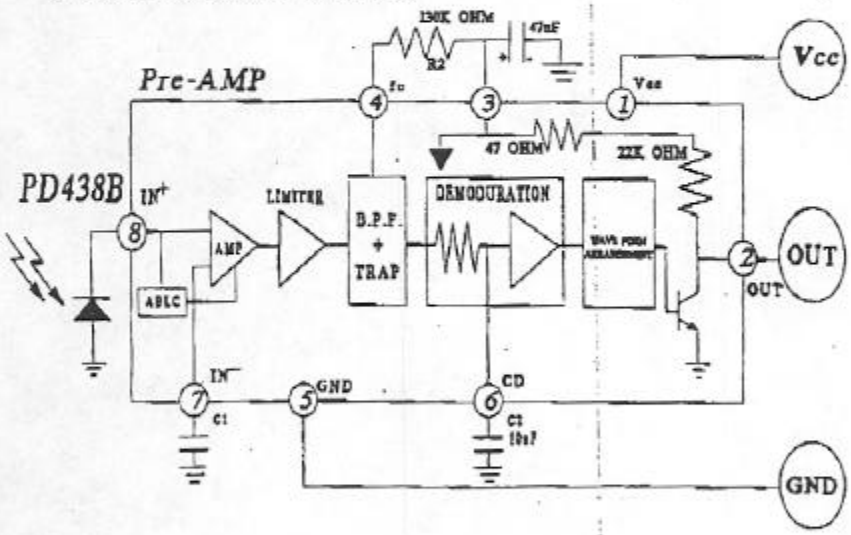


fig.3 -3db bandwidth:

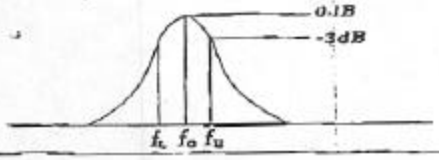
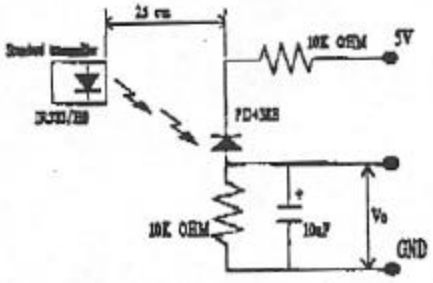
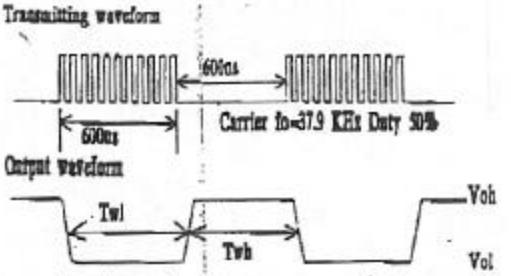


fig.4 Po measurement circuit:



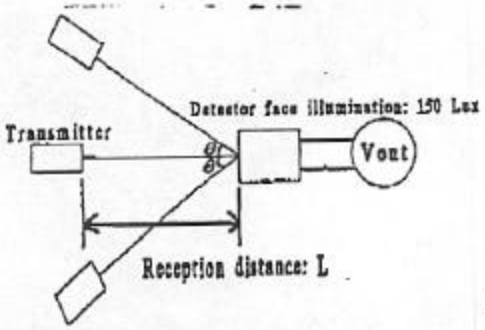
drawing B Po measurement circuit

fig.5 Burst wave.output wave:



drawing A Burst wave, Output wave

fig.6 Horizontal & Vertical directions:



θ: indicates horizontal and vertical directions

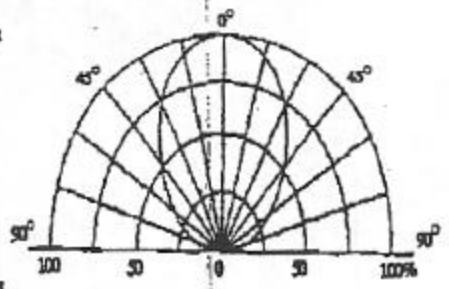
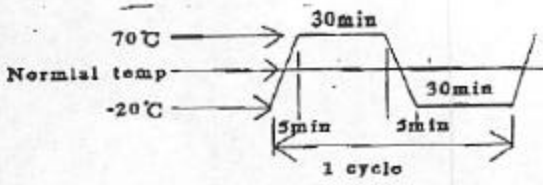


fig.7 Heat cycle test:



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Ecn:

fig.8 Package dimensions: